Complete Summary

GUIDELINE TITLE

Adult asthma care guidelines for nurses: promoting control of asthma.

BIBLIOGRAPHIC SOURCE(S)

Registered Nurses Association of Ontario (RNAO). Adult asthma care guidelines for nurses: promoting control of asthma. Toronto (ON): Registered Nurses Association of Ontario (RNAO); 2004 Mar. 104 p. [119 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Asthma

GUIDELINE CATEGORY

Evaluation
Management
Treatment

CLINICAL SPECIALTY

Family Practice
Internal Medicine

Nursing
Pulmonary Medicine

INTENDED USERS

Advanced Practice Nurses
Nurses

GUIDELINE OBJECTIVE(S)

- To provide nurses (RNs and RPNs) working in diverse settings with an evidence-based summary of basic asthma care for adults
- To assist nurses and their clients to make informed decisions that lead to quality care and improved outcomes (improved quality of life and overall reduction in morbidity)
- To assist nurses who are not specialists in asthma care to identify adults with asthma, determine whether or not their asthma is under acceptable control, provide asthma education (specifically, self-management actions plans, use of inhaler/devices and medications), facilitate appropriate referrals, and access community resources

TARGET POPULATION

Adults with asthma

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation

Assessment of level of asthma

Management

1. Asthma education
2. Action plan implementation and compliance
3. Measurement of peak expiratory flow rates
4. Referral to physician, community resources, and asthma educators, as applicable

Treatment

1. Medications
    - Controllers
    - Relievers
2. Inhaler/device technique training

MAJOR OUTCOMES CONSIDERED

- Asthma control
- Quality of life
- Healthcare costs

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases
Searches of Unpublished Data

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

An initial database search for existing asthma guidelines was conducted in early 2001 by a company that specializes in searches of the literature for health related organizations, researchers, and consultants. A subsequent search of the MEDLINE, Embase, and CINAHL databases for articles published from January 1, 1995, to February 28, 2001, was conducted using the following search terms and key words: "asthma," "self care," "self management," "practice guideline(s)," "clinical practice guideline(s)," "standards," "consensus statement(s)," "consensus," "evidence-based guidelines," and "best practice guidelines." In addition, a search of the Cochrane Library database for systematic reviews was conducted concurrently using the above search terms.

A metacrawler search engine (metacrawler.com) plus other available information provided by the project team was used to create a list of Web sites known for publishing or storing clinical practice guidelines.

Panel members were asked to review personal archives to identify guidelines not previously identified. In a rare instance, a guideline was identified by panel members and not found through the database or Internet search. These guidelines were developed by local groups and had not been published to date. Results of this strategy revealed no additional clinical practice guidelines.

The core screening criteria search method revealed multiple guidelines, several systematic reviews, and numerous articles related to asthma. The final step in determining whether the clinical practice guideline would be critically appraised was to apply the following criteria:

- guideline was in English
- guideline was dated 1995 or later
- guideline was strictly about the topic area
- guideline was evidence-based (i.e., contained references, description of evidence, sources of evidence)
- guideline was available and accessible for retrieval

NUMBER OF SOURCE DOCUMENTS

Seven guidelines were selected as foundation documents for this guideline.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Level I: Evidence is based on randomized controlled trials (or meta-analysis of such trials) of adequate size to ensure a low risk of incorporating false-positive or false-negative results.

Level II: Evidence is based on randomized trials that are too small to provide Level I evidence. They may show either positive trends that are not statistically significant or no trends and are associated with a high risk of false-negative results.

Level III: Evidence is based on nonrandomized controlled or cohort studies, case series, case-control studies, or cross-sectional studies.

Level IV: Evidence is based on the opinion of respected authorities or expert committees as indicated in published consensus conferences or guidelines.

Level V Evidence is based on the opinion of those who have written and reviewed the guideline, based on their experience, knowledge of the relevant literature, and discussion with their peers.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

A panel of nurses and researchers with expertise in asthma care, asthma education, and asthma research from institutional, community, and academic settings was convened under the auspices of the Registered Nurses Association of Ontario (RNAO).

Following the extraction of identified recommendations and content from seven guidelines, the panel underwent a process of review, discussion, and consensus on the key evidence-based assessment criteria and levels of severity and control, ultimately identifying key subtopic areas for nursing intervention recommendations.

The panel members divided into subgroups to develop draft recommendations for these key nursing interventions. This work included a critical review of the selected literature by the member(s) of the working group, including review of the

foundation guidelines, systematic review articles, primary research studies, and other supporting literature for the purpose of drafting recommendations.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

Published cost analyses were reviewed.

METHOD OF GUIDELINE VALIDATION

Clinical Validation-Pilot Testing
External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The development process yielded an initial set of recommendations, which were reviewed by the entire development panel for potential gaps and need for supporting evidence, leading to consensus on a final draft set of recommendations. Recommendations were only advanced where consensus was achieved.

This draft document was submitted to a set of external stakeholders for review and feedback. Stakeholders represented various healthcare professional groups, clients, and families, as well as professional associations. External stakeholders were asked to provide feedback using a questionnaire consisting of open and closed-ended questions. The results were compiled and reviewed by the development panel; discussion and consensus resulted in minor revisions to the draft document prior to pilot testing.

A pilot implementation practice setting was identified through a "Request for Proposal" (RFP) process. Practice settings in Ontario were asked to submit a proposal if they were interested in pilot testing the recommendations of the guideline. The proposals underwent an external review process and the successful applicant (practice setting) selected. A nine-month pilot was undertaken to test and evaluate the recommendations for practice in a community-based hospital setting (Mississauga, Ontario).

The development panel reconvened following completion of the pilot to review the experiences of the pilot site, consider the evaluation results and review any new literature published since the initial development phase. All these sources of information were used to update and revise the document prior to publication.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The levels of evidence supporting each recommendation (Level I–V) are defined at the end of the "Major Recommendations" field.

Assessment of Asthma Control

Recommendation 1.0

All individuals identified as having asthma, or suspected of having asthma, will have their level of asthma control assessed by the nurse.

Recommendation 1.1

Every client should be screened to identify those most likely to be affected by asthma. As part of the basic respiratory assessment, nurses should ask every client two questions:

- Have you ever been told by a physician that you have asthma?
- Have you ever used a puffer/inhaler or asthma medication for breathing problems?

(Level of Evidence = IV)

Recommendation 1.2

For individuals identified as having asthma or suspected of having asthma, the level of asthma control should be assessed by the nurse. Nurses should be knowledgeable about the acceptable parameters of asthma control, which are:

- Use of inhaled short-acting $beta_2$ agonist <4 times/week (unless for exercise)
- Experience of daytime asthma symptoms <4 times/week
- Experience of nighttime asthma symptoms <1 time/week
- Normal physical activity levels
- No absence from work or school
- Infrequent and mild exacerbations

(Level of Evidence = IV)

Recommendation 1.3

For individuals identified as potentially having uncontrolled asthma, the level of acuity needs to be assessed by the nurse and an appropriate medical referral provided (i.e., urgent care or follow-up appointment). (Level of Evidence = IV)

Asthma Education

Recommendation 2.0

Asthma education, provided by the nurse, must be an essential component of care.

Recommendation 2.1

The client´s asthma knowledge and skills should be assessed and where gaps are identified, asthma education should be provided. (Level of Evidence = I)

Recommendation 2.2

Education should include as a minimum, the following:

- Basic facts about asthma
- Roles/rationale for medications
- Device technique(s)
- Self-monitoring
- Action plans

(Level of Evidence = IV)

Action Plans

Recommendation 3.1

Every client with asthma should have an individualized asthma action plan for guided self-management based on evaluation of symptoms with or without peak flow measurement, developed in partnership with a healthcare professional. (Level of Evidence = I)

Recommendation 3.2

For every client with asthma, the nurse needs to assess for use and understanding of the asthma action plan. If a client does not have an action plan, the nurse needs to provide a sample action plan, explain its purpose and use, and coach the client to complete the plan with his/her asthma care provider. (Level of Evidence = V)

Recommendation 3.3

Where deemed appropriate, the nurse should assess, assist, and educate clients in measuring peak expiratory flow rates. A standardized format should be used for teaching clients how to use peak flow measurements. (Level of Evidence = IV)

Medications

Recommendation 4.0

Nurses will understand and be able to discuss with clients their medications.

Recommendation 4.1

Nurses will understand and be able to discuss the two main categories of asthma medications (controllers and relievers) with their clients. (Level of Evidence = IV)

Recommendation 4.2

All asthma clients should have their inhaler/device technique assessed by the nurse to ensure accurate use. Clients with suboptimal technique will be coached in proper inhaler/device use. (Level of Evidence = I)

Referrals

Recommendation 5.0

The nurse will facilitate referrals as appropriate.

Recommendation 5.1

Clients with poorly controlled asthma should be referred to their physician. (Level of Evidence = II)

Recommendation 5.2

All clients should be offered links to community resources. (Level of Evidence = IV)

Recommendation 5.3

Clients should be referred to an asthma educator in their community, if appropriate and available. (Level of Evidence = IV)

Education

Recommendation 6.0

Nurses working with individuals with asthma must have the appropriate knowledge and skills to:

- Identify the level of asthma control
- Provide basic asthma education
- Conduct appropriate referrals to physician and community resources

(Level of Evidence = IV)

Organization and Policy

Recommendation 7.0

Organizations should have available placebos and spacer devices for teaching, sample templates of action plans, educational materials, and resources for client and nurse education and, where indicated, peak flow monitoring equipment. (Level of Evidence = IV)

Recommendation 8.0

Organizations must promote a collaborative practice model within an interdisciplinary team to enhance asthma care. (Level of Evidence = IV)

Recommendation 9.0

Organizations need to ensure that a critical mass of health professionals are educated and supported to implement the asthma best practice guidelines in order to ensure sustainability. (Level of Evidence = V)

Recommendation 10.0

Agencies and funders need to allocate appropriate resources to ensure adequate staffing and a positive healthy work environment. (Level of Evidence = V)

Recommendation 11.0 (Level of Evidence = IV)

Nursing best practice guidelines can be successfully implemented only when there are adequate planning, resources, organizational and administrative support, and appropriate facilitation. Organizations may develop a plan for implementation that includes:

- An assessment of organizational readiness and barriers to education
- Involvement of all members (whether in a direct or indirect supportive function) who will contribute to the implementation process
- Dedication of a qualified individual to provide the support needed for the education and implementation process
- Ongoing opportunities for discussion and education to reinforce the importance of best practices
- Opportunities for reflection on personal and organizational experience in implementing guidelines

Refer to the "Description of the Implementation Strategy" field for more information.

Definitions:

Level I: Evidence is based on randomized controlled trials (or meta-analysis of such trials) of adequate size to ensure a low risk of incorporating false-positive or false-negative results.

Level II: Evidence is based on randomized trials that are too small to provide Level I evidence. They may show either positive trends that are not statistically significant or no trends and are associated with a high risk of false-negative results.

Level III: Evidence is based on nonrandomized controlled or cohort studies, case series, case-control studies, or cross-sectional studies.

Level IV: Evidence is based on the opinion of respected authorities or expert committees as indicated in published consensus conferences or guidelines.

Level V Evidence is based on the opinion of those who have written and reviewed the guideline, based on their experience, knowledge of the relevant literature, and discussion with their peers.

CLINICAL ALGORITHM(S)

An algorithm is provided in the original guideline document for assessing asthma control.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

Where evidence was available from randomized controlled trials and systematic reviews, recommendations were based on these data. Where there was a lack of evidence from high quality studies, recommendations were based on the best available evidence or expert opinion. The type of evidence is provided for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Improved quality care and improved outcomes (improved quality of life and overall reduction in morbidity)
- Improved identification of adults with asthma and determination of whether or not their asthma is under acceptable control, improved provision of asthma education (specifically, self-management actions plans, use of inhaler/devices and medications), appropriate referrals, and improved access to community resources

POTENTIAL HARMS

Asthma medications are associated with certain side effects.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- While best practice guidelines represent a statement of best practice based on the best available evidence, they are not intended to be applied in a "cookbook fashion" and replace the nurse´s judgment for the individual client. This document needs to be reviewed and applied, based on the specific needs of the organization or practice setting/environment, as well as the needs and wishes of the client.
- These best practice guidelines are related only to nursing practice and not intended to take into account fiscal efficiencies. These guidelines are not binding for nurses, and their use should be flexible to accommodate client/family wishes and local circumstances. They neither constitute a liability nor a discharge from liability. While every effort has been made to ensure the

accuracy of the contents at the time of publication, neither the authors nor Registered Nurses Association of Ontario (RNAO) give any guarantee as to the accuracy of the information contained in them, nor accept any liability, with respect to loss, damage, injury, or expense arising from any such errors or omissions in the contents of this work. Any reference throughout the document to specific pharmaceutical products as examples does not imply endorsement of any of these products.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Best practice guidelines can only be successfully implemented if there are adequate planning, resources, organizational and administrative support, as well as appropriate facilitation. In this light, the Registered Nurses Association of Ontario (RNAO), through a panel of nurses, researchers, and administrators, has developed a Toolkit: Implementation of Clinical Practice Guidelines based on available evidence, theoretical perspectives, and consensus. The Toolkit is recommended for guiding the implementation of any clinical practice guideline in a healthcare organization.

The "Toolkit" provides step-by-step directions to individuals and groups involved in planning, coordinating, and facilitating guideline implementation. Specifically, the Toolkit addresses the following key steps in implementing a guideline:

1. Identifying a well-developed, evidence-based clinical practice guideline
2. Identification, assessment, and engagement of stakeholders
3. Assessment of environmental readiness for guideline implementation
4. Identifying and planning evidence-based implementation strategies
5. Planning and implementing an evaluation
6. Identifying and securing required resources for implementation and evaluation

Implementing practice guidelines that result in successful practice changes and positive clinical impact is a complex undertaking. The Toolkit is one key resource for managing this process.

IMPLEMENTATION TOOLS

Clinical Algorithm
Patient Resources
Tool Kits

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Registered Nurses Association of Ontario (RNAO). Adult asthma care guidelines for nurses: promoting control of asthma. Toronto (ON): Registered Nurses Association of Ontario (RNAO); 2004 Mar. 104 p. [119 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2004 Mar

GUIDELINE DEVELOPER(S)

Registered Nurses Association of Ontario - Professional Association

SOURCE(S) OF FUNDING

Funding was provided by the Ontario Ministry of Health and Long Term Care.

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Guideline Development Panel Members:

Lisa Cicutto, RN, PhD, ACNP, CAE
Team Leader
Assistant Professor
Faculty of Nursing, University of Toronto
ACNP – Respiratory
The Asthma and Airway Centre –
University Health Network
Toronto, Ontario

Pat Hill Bailey, RN, BN, MHSc, PhD
Professor
School of Nursing
Laurentian University
Sudbury, Ontario

Ann Bartlett, RN, BScN, CAE
NARTC/Diploma in COPD
Nurse Clinician
Firestone Institute for Respiratory Health
St Joseph´s Healthcare
Hamilton, Ontario

Janice Bissonnette, RN, MScN, CAE, CNCC(C)
Clinical Nurse Specialist
Queensway – Carleton Hospital
Ottawa, Ontario

Naomi Cornelius, RPN
Manager, Resident Care/Service
Needs Coordinator
Churchill Place Retirement Home
Oakville, Ontario

Julie Duff Cloutier, RN, BScN, MSc, CAE
Assistant Professor
School of Nursing
Laurentian University
Sudbury, Ontario

Khiroon Kay Khan, RN, CAE
NARTC/Diploma in Asthma and COPD
Clinical Nurse Educator
The Asthma and Airway Centre
University Health Network –
Toronto Western Hospital
Toronto, Ontario

Donna Lockett, PhD
Research Associate
University of Ottawa
Community Health Research Unit
Ottawa, Ontario

Heather McConnell, RN, BScN, MA(Ed)
RNAO Project Staff – Facilitator
Project Manager, Nursing Best Practice
Guidelines Project
Registered Nurses Association of Ontario
Toronto, Ontario

Jennifer Olajos-Clow, RN, BA/BPHE, BNSc, MSc, CAE Asthma Educator
Asthma Education Centre
Kingston General Hospital
Kingston, Ontario

Ruth Pollock, RN, MScN
Professional Practice Leader – Nursing
Cornwall General Hospital
Cornwall, Ontario

Dale Stedman, RN
Respiratory Coordinator/Consultant
Saint Elizabeth Health Care
Toronto, Ontario

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Registered Nurses Association of Ontario (RNAO) Web site.

Print copies: Available from the Registered Nurses Association of Ontario (RNAO), Nursing Best Practice Guidelines Project, 158 Pearl Street, Toronto, Ontario M5H 1L3.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Toolkit: implementation of clinical practice guidelines. Toronto (ON): Registered Nurses Association of Ontario (RNAO); 2002 Mar. 88 p.

Electronic copies: Available in Portable Document Format (PDF) from the Registered Nurses Association of Ontario (RNAO) Web site.

Print copies: Available from the Registered Nurses Association of Ontario (RNAO), Nursing Best Practice Guidelines Project, 158 Pearl Street, Toronto, Ontario M5H 1L3.

PATIENT RESOURCES

The following is available:

- Health education fact sheet. The goal is asthma control. Toronto (ON): Registered Nurses Association of Ontario (RNAO); 2004 Mar. 2 p.

Electronic copies: Available in Portable Document Format (PDF) from the Registered Nurses Association of Ontario (RNAO) Web site.

Print copies: Available from the Registered Nurses Association of Ontario (RNAO), Nursing Best Practice Guidelines Project, 158 Pearl Street, Toronto, Ontario M5H 1L3.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This NGC summary was completed by ECRI on September 16, 2004. The information was verified by the guideline developer on October 14, 2004.

COPYRIGHT STATEMENT

DISCLAIMER

NGC DISCLAIMER

The National Guideline Clearinghouse™ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion.aspx.

NGC, AHRQ, and its contractor ECRI make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.

Date Modified: 10/9/2006